

Aerogel Modified Structural Thermal Protection System, Phase I

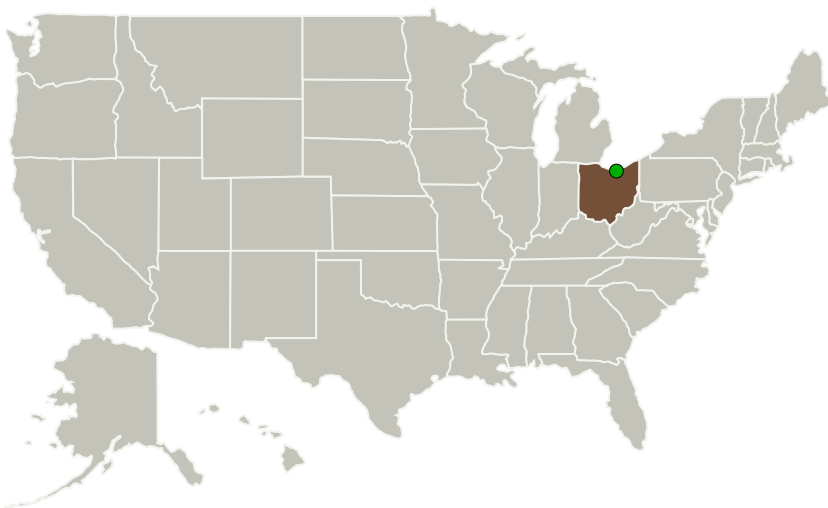
Completed Technology Project (2011 - 2011)



Project Introduction

This program will mature and further develop structural syntactic foam insulated integral Thermal Protection System (TPS) designs and materials as an enabling technology for the highly reliable, reusable launch system. This proposed SBIR program will build on Powdermet's extensive prior experience with SiC rigid insulators, CMCs, and ultrahigh-temperature coatings, combined with design modeling from MR&D associates that identified positive directions needed in foam-supported integral structural TPS systems.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Powdermet, Inc.	Lead Organization	Industry	Euclid, Ohio
● Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

Primary U.S. Work Locations

Ohio

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Project Transitions

 **February 2011:** Project Start

 **September 2011:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/137980>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Powdermet, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

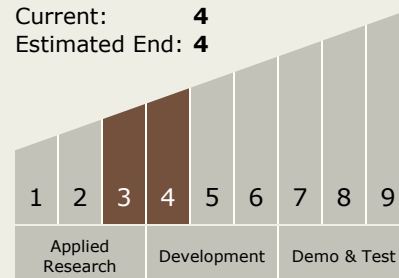
Brian Doud

Technology Maturity (TRL)

Start: 3

Current: 4

Estimated End: 4



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Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
 - └ TX09.1 Aeroassist and Atmospheric Entry
 - └ TX09.1.1 Thermal Protection Systems

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System